

Warfare technology to increase survivability of aircraft

by *Fran Crumb, Information Directorate*

ROME, N.Y. — The Air Force Research Laboratory Information Directorate recently awarded a \$4,264,000 contract to Sanders, a Lockheed Martin Company of Nashua, N.H., for development of advanced electronic warfare (EW) technology.

The agreement is funded by the Defense Advanced Research Projects Agency of Arlington, Va. The goal is to develop new, unique EW capability to demonstrate Autonomous Negotiation Teams technology.

“EW systems increase survivability of aircraft by detecting and countering threats,” said Mark J. Gorniak, program manager in the directorate’s Information Technology Division. “High probability of identification and survival is a function of optimal allocation of EW sensors.

“Currently, those sensors are controlled using fixed scan schedules. The scan schedule determines the length of time each sensor looks at a nemitter (dwell time) and the time between observations (revisit time),” Gorniak said. “How-

ever, the dense signal environment (friendly and threatening), coupled with the complexity of forecast threat operation, has steadily decreased the probability of threat identification and aircraft survival.”

Sanders engineers will develop an adaptive scan scheduler that autonomously regulates dwell and revisit time by responding to changes in the threat environment, thus increasing the likelihood of identification and survival. The company is teaming with SRI International, which will provide agent, formal methods, and software architecture technologies; and Northeastern University providing control-theory based adaptive and composable software component technologies.

“This research will dramatically improve EW system performance — particularly that of electronically or physically scanned sensors — and reduce crew workload,” Gorniak said. “It will also have applications to a broad range of systems which require adaptive resource allocation.” @